

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of: )  
                        ) )  
Karman et al. ) )  
Serial No.: 10/574,140 ) Group Art Unit: 2629  
                        ) )  
Filed: March 29, 2006 ) Examiner: Ilana L. Spar  
                        ) )  
For: Optimising Brightness Control ) Board of Patent Appeals and  
      in a 3D Image Display Device ) Interferences  
                        ) )  
                        ) )  
Confirmation No.: 7741 )

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**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

In support of the Notice of Appeal filed on September 7, 2010 and pursuant to 37 C.F.R. § 41.37, Appellant presents this appeal brief in the above-captioned application.

This is an appeal to the Board of Patent Appeals and Interferences from the Examiner's rejection of claims 1-22 and 24-35 in the Non-Final Office Action dated April 8, 2010. The appealed claims are set forth in the attached Claims Appendix.

1. Real Party in Interest

This application is assigned to Koninklijke Philips Electronics N.V., the real party in interest.

2. Related Appeals and Interferences

There are no other appeals or interferences that would directly affect, be directly affected, or have a bearing on the instant appeal.

3. Status of the Claims

Claims 1-22 and 24-35 are presently pending. Claims 23 and 36 have been cancelled. Claims 18 and 31 have been objected to as including allowable subject matter, but dependent on a rejected claim. Claims 1-22 and 24-35 have been at least twice rejected in the Non-Final Office Action. The at least twice rejection of claims 1-22 and 24-35 is being appealed.

4. Status of Amendments

All amendments submitted by Appellants have been entered.

5. Summary of Claimed Subject Matter

The present invention, as recited in independent claim 1, is directed to a display device (100, 101) for displaying a three dimensional image such that different views are displayed according to different viewing angles. (See *Specification*, p. 8, ll. 11-12, p. 12, l. 30 - p. 13, l.7, Figs. 1, 3 and 7). The display device (100, 101) includes a display panel (15) having a plurality of separately addressable pixels (1...10) for displaying said image. (See, *Id.*, p. 5, ll. 4-5, Fig. 1). The pixels (1...10) are grouped (16<sub>1</sub>, 16<sub>2</sub>, 16<sub>3</sub>) such that different pixels in a group correspond to different views of the image as a function of an angle with respect to a first axis. (See, *Id.*, p. 5, ll. 5-7, p. 12., ll. 24-29, Fig. 1). Each pixel (1...10) in a group (16<sub>1</sub>, 16<sub>2</sub>, 16<sub>3</sub>) is positioned relative to a respective discrete light source (14a...14d). (See, *Id.*, p. 5, ll. 11-16, Fig. 1). The display device (100,101) further includes a display driver (52) for controlling an optical characteristic of each pixel

to generate an image according to received image data. (*See, Id.*, p. 8, ll. 19-29, Fig. 7). The display device (100, 101) further includes an intensity compensation device (60, 70) for further controlling light transmission characteristics of pixels (1...10) within a group (16<sub>1</sub>, 16<sub>2</sub>, 16<sub>3</sub>) to compensate for an angular size of view, of the respective light source, via said pixels in a second axis of the display panel (15), wherein the second axis is transverse to the first axis. (*See, Id.*, p. 8, l. 30 – p. 10, l. 2, p. 12., ll. 24-29, Figs. 1 and 7).

The present invention, as recited in independent claim 22, is directed to a method for displaying a three dimensional image on a display device (100, 101) such that different views of the image are displayed according to different viewing angles. (*See Specification*, p. 8, ll. 11-12, p. 12, l. 30 - p. 13, l.7, Figs. 1, 3 and 7). The method includes the step of processing image data to form pixel intensity data values for each one of a plurality of separately addressable pixels (1...10) in a display panel (15). (*See, Id.*, p. 8, ll. 13-22, Fig. 1). The pixels (1...10) being grouped (16<sub>1</sub>, 16<sub>2</sub>, 16<sub>3</sub>) such that different pixels in a group correspond to different views of the image as a function of an angle with respect to a first axis. (*See, Id.*, p. 5, ll. 5-7, p. 12., ll. 24-29, Fig. 1). Each pixel (1...10) in a group (16<sub>1</sub>, 16<sub>2</sub>, 16<sub>3</sub>) is positioned relative to a respective discrete light source (14a...14d). (*See, Id.*, p. 5, ll. 11-16, Fig. 1). The pixel intensity data values each for controlling light transmission characteristics of a respective pixel to generate the image. (*See, Id.*, p. 6, l. 28 – p. 7, l. 12). The method further includes the step of applying intensity correction values to at least some pixel data values within each group (16<sub>1</sub>, 16<sub>2</sub>, 16<sub>3</sub>) to compensate for an angular size of view, of the respective light source (14a...14d), via said pixels (1...10), in a second axis of the display panel, wherein the second axis is transverse to the first axis, by controlling an amount of light from the respective discrete light source (14a...14d) passing through each pixel (1..10) according to a three dimensional image to be displayed. (*See Id.* p. 7, ll. 13-26). The method further including the step of using the corrected pixel data values to drive pixels (1...10) of the display panel (15) to generate said image. (*See Id.* p. 8, ll. 21-29).

6. Grounds of Rejection to be Reviewed on Appeal<sup>1</sup>

- I. Whether claims 1-13, 22, 24-26, and 35 are unpatentable under 35 U.S.C. § 103(a) over U.S. Patent Publication 2001/0028356 to Balogh (“Balogh”) in view of U.S. Patent 7,113,159 to Sawabe (“Sawabe”).
- II. Whether claim 14-17 and 27-30 are unpatentable under 35 U.S.C. § 103(a) over Balogh in view of Sawabe in further view of U.S. Patent 6,172,807 to Akamatsu (“Akamatsu”).
- III. Whether claim 19-21 and 32-34 are unpatentable under 35 U.S.C. § 103(a) over Balogh in view of Sawabe in further view of U.S. Patent 6,386,720 to Mchizuki (“Mochizuki”).

7. Argument

I. The Rejection Of Claims 1-13, 22, 24-26, And 35 Under 35 U.S.C. § 103(a) Over Balogh In View Of Sawabe Should Be Reversed

A. The Examiner's Rejection

In the Office Action, the Examiner rejected claims 1-13, 22, 24-26, and 35 are unpatentable under 35 U.S.C. § 103(a) over Balogh in view of Sawabe. (*See* 4/8/10 Office Action, p. 3).

The Examiner correctly acknowledged that Balogh fails to disclose the claim recitation of an intensity compensation device for further controlling light transmission characteristics of pixels within a group to compensate for an angular size of view, of the respective light source, via said pixels. (*See Id.* at p. 4). To cure this deficiency, the Examiner refers to Sawabe. Sawabe discloses a gradation table (LUT3) for securing gradation properties in a wide viewing angle. (*See* Sawabe, col. 7, ll. 41-44). Sawabe discloses a liquid crystal display that is adapted to adjust gradation curve

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<sup>1</sup> Applicants note that claims 1-22 and 24-35 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 and 20-27 of copending Application No. 10/574,142. The Applicants have acknowledged this provisional rejection and will address the rejection if the claims of the applications are deemed allowable and remain subject of a non-provisional double patenting rejection

distortion with respect to the view angle to freely switch the screen display from a wide viewing angle to a narrow viewing angle. (See Id., col. 5, ll. 21-28).

B.      Balogh and Sawabe Neither Disclose Nor Suggest An Intensity Compensation Device For Further Controlling Light Transmission Characteristics Of Pixels Within A Group To Compensate For An Angular Size Of View, Of The Respective Light Source, Via Said Pixels, As Recited In Claim 1.

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The Examiner relies on Sawabe's disclosure of the LUT 3 to teach an intensity compensation device. (See 4/8/10 Office Action, p. 4). However, the mere teaching of "an intensity compensation device does not disclose or suggest the recitation of an intensity compensation device for further controlling light transmission characteristics of pixels within a group to compensate for an angular size of view" as recited in claim 1.

Initially, the Applicants point out that claim 1 is directed to a "display device for displaying a three dimensional image." There is no disclosure or suggestion in Sawabe that it is directed to a three-dimensional display. Claim recites "a display panel having a plurality of separately addressable pixels for displaying said image, *the pixels being grouped such that different pixels in a group correspond to different views of the image as a function of an angle* with respect to a first axis, each pixel in a group being positioned relative to a respective discrete light source." The grouping of the pixels is related to the three-dimensional image that will be displayed by the display device. This is not the case for 2D displays such as the display described by Sawabe. Applicants fully understand that the Examiner did not use Sawabe to teach this element of the claim. However, Applicants believe it is necessary to describe the differences between 2D and 3D displays to explain why the 2D correction taught by Sawabe is not applicable to the recited 3D display.

Those skilled in the art will understand that in a 2D display, such as the one described in Sawabe, each of the pixels sends its information in all directions. That is, a pixel in a 2D display is not limited to a viewing angle, but viewers at any angle will

see the same pixel. Thus, correcting any one pixel of a 2D display for a particular viewing angle will necessarily result in that pixel having a less than optimal viewing characteristic at other viewing angles. This is why Sawabe is basically limited to two viewing angles, a narrow viewing angle and a wide viewing angle. Specifically, Sawabe states that “the adjustment in the gradation curve’s distortion with respect to the viewing angle *can freely switch on the display screen between a wide viewing angle display and a narrow viewing angle display.*” (See Sawabe, col. 5, ll. 22-25). Thus, the adjustment for viewing angle in Sawabe is a binary adjustment for a two dimensional display between a narrow viewing angle and a wide viewing angle. Thus, when the Sawabe display is set for a narrow viewing angle, viewers at a wide viewing angle will not have the benefit of the correction. Those viewers will see the same pixels as a viewer at a narrow viewing angle and therefore, the pixels corrected for a narrow viewing angle will appear distorted for those viewers at a wide viewing angle.

As described above, this is not the case for the display recited in claim 1 because “the pixels [are] grouped such that different pixels in a group correspond to different views of the image as a function of an angle. That is, viewers at different viewing angles are not seeing the same pixels, they are seeing the pixels that correspond to the viewing angle at which they are viewing the display. A viewer at a first angle sees a “different view[] of the image” than a viewer at a second angle. Therefore, claim 1 recites “an intensity compensation device for further *controlling light transmission characteristics of pixels within a group to compensate for an angular size of view, of the respective light source, via said pixels in a second axis of the display panel.*” The compensation is provided in this manner precisely because of the above three-dimensional aspect of pixel grouping described above. In contrast, if one were to apply the correction described by Sawabe to all the pixels in a group, the correction would be improper because the Sawabe method assumes that the correction for all the pixels is for the same viewing angle (*e.g.*, the narrow viewing angle or the wide viewing angle).

The Examiner appears to implicitly acknowledge this deficiency of Sawabe because the Examiner states that “[i]t would have been obvious to one of

ordinary skill in the art at the time of invention that the image intensity varies according to viewing angle at which the display is observed, such that it would be necessary to compensate pixel intensities at wider viewing angles to ensure that all viewers, regardless of location, are able to view a correct image.” (See 4/8/10 Office Action, p. 5).

However, what the Examiner fails to address is that there is no suggestion within Sawabe as to how one would modify this binary correction using the LUT in order for it to “control[] light transmission characteristics within a group to compensate for an angular size of view” when that group “correspond[s] to different views of the image as a function of an angle” as recited in claim 1. Applicants respectfully submit that this assertion by the Examiner is unsupported by the facts and that the Examiner has never provided a *prima facie* case of how one would apply the correction of Sawabe to a three-dimensional display.

Therefore, Appellants respectfully submit that neither Balogh nor Sawabe, either alone or in combination, teach or suggest “an intensity compensation device for further controlling light transmission characteristics of pixels within a group to compensate for an angular size of view, of the respective light source, via said pixels in a second axis of the display panel, wherein the second axis is transverse to the first axis” as recited in claim 1. Accordingly, it is respectfully submitted that the rejection of claim 1 under 35 U.S.C. § 103(a) over Balogh in view of Sawabe should be withdrawn. Because claims 2-13 depend from claim 1, it is respectfully submitted that the rejection of these claims should also be withdrawn.

Independent claim 22 recites “processing image data to form pixel intensity data values for each one of a plurality of separately addressable pixels in a display panel, *the pixels being grouped such that different pixels in a group correspond to different views of the image as a function of an angle* with respect to a first axis, and each pixel in a group being positioned relative to a respective discrete light source, the pixel intensity data values each for controlling light transmission characteristics of a respective pixel to generate the image” and “*applying intensity correction values to at least some pixel data values within each group to compensate for an angular size of view,*

*of the respective light source, via said pixels, in a second axis of the display panel,*  
wherein the second axis is transverse to the first axis, by controlling an amount of light  
from the respective discrete light source passing through each pixel according to a three  
dimensional image to be displayed.” Thus, for the same reasons as described above with  
respect to claim 1, it is respectfully submitted that the rejection of claim 22 under 35  
U.S.C. § 103(a) over Balogh in view of Sawabe should be withdrawn. Because claims  
24-26 depend from claim 22, it is respectfully submitted that the rejection of these claims  
should also be withdrawn.

II.     The Rejection of Claims 14-17 and 27-30 under 35 U.S.C. § 103(a) over  
Balogh in view of Sawabe in further view of Akamatsu Should Be  
Reversed.

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A.     The Examiner's Rejection

In the Office Action, the Examiner rejected claims 14-17 and 27-30 as  
unpatentable under 35 U.S.C. § 103(a) over Balogh in view of Sawabe in further view of  
Akamatsu. (*See* 4/8/10 Office Action, p. 9).

Balogh and Sawabe were discussed above. Akamatsu describes a system  
for providing a stereoscopic image on a display device that does not become dim even  
when the viewer moves leftwards or rightwards from the front position. (*See*, Akamatsu,  
col. 1, ll. 57-60).

B. The Cited Patents Neither Disclose Nor Suggest An Intensity  
Compensation Device For Further Controlling Light Transmission  
Characteristics Of Pixels Within A Group To Compensate For An  
Angular Size Of View, Of The Respective Light Source, Via Said  
Pixels, As Recited In Claim 1

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Akamatsu suffers from the exact same deficiencies as Sawabe. As described  
above, Akamatsu describes a stereoscopic image that is the same as a viewer changes  
viewing angles. That is, the viewer is looking at the same view of the same image  
regardless of the position of the viewer. Thus, any correction applied to the pixels is tied

to this constraint. There is no teaching or suggestion of how one would apply the correction described by Akamatsu to different views of an image as those views are defined by pixels in a group. Specifically, Akamatsu neither discloses nor suggests how one would modify the stereoscopic correction in order for it to “control[] light transmission characteristics within a group to compensate for an angular size of view” when that group “correspond[s] to different views of the image as a function of an angle”

Therefore, Appellants respectfully submit that neither Balogh, Sawabe nor Akamatsu, either alone or in combination, teach or suggest “an intensity compensation device for further controlling light transmission characteristics of pixels within a group to compensate for an angular size of view, of the respective light source, via said pixels in a second axis of the display panel, wherein the second axis is transverse to the first axis” as recited in claim 1. Because claims 14-17 depend from claim 1, it is respectfully submitted that the rejection of these claims should be withdrawn. Similarly, because claims 27-30 depend from claim 22, it is respectfully submitted that the rejection of these claims should be withdrawn.

III.     The Rejection of Claims 19-21 and 32-34 under 35 U.S.C. § 103(a) over Balogh in view of Sawabe in further view of Mochizuki Should Be Reversed.

A.       The Examiner's Rejection

In the Office Action, the Examiner rejected claims 19-21 and 32-34 as unpatentable under 35 U.S.C. § 103(a) over Balogh in view of Sawabe in further view of Mochizuki. (*See* 4/8/10 Office Action, p. 14).

Balogh and Sawabe were discussed above. Mochizuki teaches a light source comprising an acrylic plate in which LEDs serve as a light source at one side of the plate. (See Mochizuki, col. 3, ll. 15-25). A mirror reflects light from the LEDs. The top and bottom surfaces of the plate, which emit the reflected light, are rough. The problem that Mochizuki tries to cure is an increased luminance at the center of the plate

and diminished luminance towards the edges of the plate. (See *Id.*, col. 1, ll. 22-27). To remedy this problem, Mochizuki teaches scattering portions that increase in area away from the LEDs along the x-axis. (See *Id.*, col. 5, l. 66- col. 6, l. 1).

C. The Cited Patents Neither Disclose Nor Suggest An Intensity Compensation Device For Further Controlling Light Transmission Characteristics Of Pixels Within A Group To Compensate For An Angular Size Of View, Of The Respective Light Source, Via Said Pixels, As Recited In Claim 1

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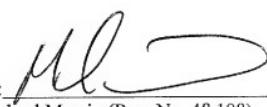
Mochizuki does not cure the above described deficiencies of Balogh and Sawabe with respect to claims 1 and 22. To compensate for the light distribution in the y-direction, Mochizuki individually adjusts the luminance of each LED. (*See Id.*, col. 6, ll. 10-11). The result is a uniform luminance over the surface of the acrylic plate. (*See Id.*, col. 6, ll. 30-36). Although this cures the luminance problem, it would not cure a view angle dependency. Viewing angle dependency relates to pixels, not light sources. Mochizuki's resulting display that exhibits a uniform luminance over the entire display would still exhibit a viewing angle dependency. In fact, Mochizuki does not even address the issue of a viewing angle dependency.

Therefore, Appellants respectfully submit that neither Balogh, Sawabe nor Mochizuki, either alone or in combination, teach or suggest "an intensity compensation device for further controlling light transmission characteristics of pixels within a group to compensate for an angular size of view, of the respective light source, via said pixels in a second axis of the display panel, wherein the second axis is transverse to the first axis" as recited in claim 1. Because claims 19-21 depend from claim 1, it is respectfully submitted that the rejection of these claims should be withdrawn. Similarly, because claims 32-34 depend from claim 22, it is respectfully submitted that the rejection of these claims should be withdrawn.

8. Conclusion

For the reasons set forth above, Appellants respectfully request that the Board reverse the rejection of the claims by the Examiner under 35 U.S.C. §§ 103(a), and indicate that claims 1-22 and 24-35 are allowable.

Respectfully submitted,

By:   
Michael Marcin (Reg. No. 48,198)

Date: December 15, 2011

Fay Kaplun & Marcin, LLP  
150 Broadway, Suite 702  
New York, NY 10038  
Tel: (212) 619-6000  
Fax: (212) 619-0276

**CLAIMS APPENDIX**

1. (Previously Presented) A display device for displaying a three dimensional image such that different views are displayed according to different viewing angles, the display device including:

a display panel having a plurality of separately addressable pixels for displaying said image, the pixels being grouped such that different pixels in a group correspond to different views of the image as a function of an angle with respect to a first axis, each pixel in a group being positioned relative to a respective discrete light source;

a display driver for controlling an optical characteristic of each pixel to generate an image according to received image data; and

an intensity compensation device for further controlling light transmission characteristics of pixels within a group to compensate for an angular size of view, of the respective light source, via said pixels in a second axis of the display panel, wherein the second axis is transverse to the first axis.

2. (Previously Presented) The display device of claim 1 further including a back panel for providing a plurality of discrete light sources, each group of pixels in the display panel being positioned to receive light from a respective one of the discrete light sources.

3. (Previously Presented) The display device of claim 2 in which the back panel provides a plurality of line sources of illumination.

4. (Previously Presented) The display device of claim 2 in which the back panel provides a plurality of point sources of illumination.

5. (Previously Presented) The display device of claim 2 in which the display panel is a light-transmissive display panel adapted for viewing from a side opposite to a side on which the back panel is located.

6. (Previously Presented) The display device of claim 1 further including a lenticular array positioned adjacent to the display panel, each lenslet within the lenticular array focusing light from selected pixels in the display panel.
7. (Previously Presented) The display device of claim 6 in which each lenslet within the lenticular array is associated with a group of pixels.
8. (Previously Presented) The display device of claim 1 in which the display driver and intensity compensation device in combination are adapted to control the amount of light passing through each pixel according to an image to be displayed.
9. (Previously Presented) The display device of claim 1 in which the intensity compensation device comprises a look-up table containing correction values to be applied in respect of each pixel within a group.
10. (Original) The display device of claim 9 in which the correction values are selected so as to substantially normalise an intensity displayed by a group of pixels to be independent of viewing angle.
11. (Original) The display device of claim 9 in which the look-up table includes substitution values or offset values as a function of viewing angle to be applied to a frame store.
12. (Previously Presented) The display device of claim 1 in which the intensity compensation device is adapted to adjust a pixel drive voltage and/or current received from the display driver.
13. (Original) The display device of claim 12 in which the intensity compensation device provides a voltage and/or current offset to the pixel drive voltage and/or current received from the display driver.

14. (Previously Presented) The display device of claim 1 in which the intensity compensation device is adapted to further control optical characteristic of pixels within a group as a function of a linear viewing angle dimension of each pixel.

15. (Previously Presented) The display device of claim 1 in which the intensity compensation device is adapted to further control optical characteristic of pixels within a group as a function of an areal viewing angle dimension of each pixel.

16. (Previously Presented) The display device of claim 1 in which the intensity compensation device is adapted to further control optical characteristic of pixels within a group as a function of the angle subtended by a linear dimension of a pixel relative to its respective discrete light source.

17. (Previously Presented) The display device of claim 1 in which the intensity compensation device is adapted to further control optical characteristic of pixels within a group as a function of the angle subtended by an areal dimension of a pixel relative to its respective discrete light source.

18. (Previously Presented) The display device of claim 1 in which the intensity compensation device is adapted to further control optical characteristic of pixels within a group to modulate the optical transmissivity of each pixel according to the function:

$$\arctan\{[(N + 0.5)p_0 + 0.5 * w] / h\} - \arctan\{[(N - 0.5)p_0 - 0.5 * w] / h\}$$
$$\arctan\{[(n + 0.5)p_0 + 0.5 * w] / h\} - \arctan\{[(n - 0.5)p_0 - 0.5 * w] / h\}$$

where the group of pixels comprises  $(2N + 1)$  pixels,  $n$  is the pixel position from the centre of the group of  $(2N + 1)$  pixels,  $p_0$  is the pixel width,  $w$  is the width of the discrete light source, and  $h$  is the orthogonal separation of the light source to the plane of the group of pixels.

19. (Previously Presented) The display device of claim 1 in which inherent optical characteristics of the display panel are configured such that viewing angle dependence is reduced or substantially minimised relative to the first axis which is a y-axis.

20. (Previously Presented) The display device of claim 19 in which the intensity compensation device serves to reduce or substantially minimise viewing angle dependence relative to the second axis which is a x-axis, wherein the second axis [[that]] is orthogonal to the y-axis.

21. (Original) The display device of claim 20 incorporated into an object, in which the x-axis is defined as the horizontal axis when the object is in normal use, and the y-axis is defined as the vertical axis when the object is in normal use.

22. (Previously Presented) A method for displaying a three dimensional image on a display device such that different views of the image are displayed according to different viewing angles, the method comprising the steps of:

processing image data to form pixel intensity data values for each one of a plurality of separately addressable pixels in a display panel, the pixels being grouped such that different pixels in a group correspond to different views of the image as a function of an angle with respect to a first axis, and each pixel in a group being positioned relative to a respective discrete light source, the pixel intensity data values each for controlling light transmission characteristics of a respective pixel to generate the image;

applying intensity correction values to at least some pixel data values within each group to compensate for an angular size of view, of the respective light source, via said pixels, in a second axis of the display panel, wherein the second axis is transverse to the first axis, by controlling an amount of light from the respective discrete light source passing through each pixel according to a three dimensional image to be displayed; and

using the corrected pixel data values to drive pixels of the display panel to generate said image.

23. (Cancelled).
24. (Original) The method of claim 22 in which the intensity correction values are obtained from a look-up table containing correction values to be applied in respect of each pixel within a group.
25. (Previously Presented) The method of claim 22 in which the intensity correction values are selected so as to substantially normalise an intensity displayed by a group of pixels to be independent of viewing angle.
26. (Original) The method of claim 22 in which the intensity correction values are used to adjust a pixel drive voltage and/or current applied to the display panel.
27. (Original) The method of claim 22 in which the intensity correction values are determined according to a function of a linear viewing angle dimension of each pixel in a group.
28. (Original) The method of claim 22 in which the intensity correction values are determined according to a function of an areal viewing angle dimension of each pixel in a group.
29. (Original) The method of claim 22 in which the intensity correction values are determined according to a function of the angle subtended by a linear dimension of a pixel relative to its respective discrete light source.
30. (Previously Presented) The method of claim 22 in which the intensity correction values are determined according to a function of the angle subtended by an areal dimension of a pixel relative to its respective discrete light source.
31. (Original) The method of claim 22 in which the intensity correction values are selected to modulate the optical transmissivity of each pixel according to the function:

$$\arctan\{[(N + 0.5)p_0 + 0.5 * w] / h\} - \arctan\{[(N - 0.5)p_0 - 0.5 * w] / h\}$$
$$\arctan\{[(n + 0.5)p_0 + 0.5 * w] / h\} - \arctan\{[(n - 0.5)p_0 - 0.5 * w] / h\}$$

where the group of pixels comprises  $(2N + 1)$  pixels,  $n$  is the pixel position from the centre of the group of  $(2N + 1)$  pixels,  $p_0$  is the pixel width,  $w$  is the width of the discrete light source, and  $h$  is the orthogonal separation of the light source to the plane of the group of pixels.

32. (Previously Presented) The method of claim 22 further including the step of configuring inherent optical characteristics of the display panel such that viewing angle dependence is reduced or substantially minimised relative to the first axis which is a  $y$ -axis.

33. (Previously Presented) The method of claim 32 in which the intensity correction values are applied to reduce or substantially minimise viewing angle dependence relative to the second axis which is a  $x$ -axis, wherein the second axis is orthogonal to the  $y$ -axis.

34. (Original) The method of claim 33 in which the  $x$ -axis is the horizontal axis when the display panel is in normal use, and the  $y$ -axis is the vertical axis when the display panel is in normal use.

35. (Previously Presented) A computer program product, comprising a storage medium having thereon computer program code that is executable when loaded onto a computer, comprising:

instructing the computer to execute the method of claim 22.

36. (Cancelled)

**EVIDENCE APPENDIX**

No evidence has been entered or relied upon in the present appeal.

**RELATED PROCEEDING APPENDIX**

No decisions have been rendered regarding the present appeal or any proceedings related thereto.